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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/197,314	11/20/1998	SANTHANA KRISHNAMACHARI	PHA-23.543	1130

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EXAMINER
LEE, RICHARD J

ART UNIT	PAPER NUMBER
2613	

DATE MAILED: 09/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/197,314	Applicant(s) Krishnamachari
	Examiner Richard Lee	Art Unit 2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *Jul 1, 2002* .

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-7, 9-20, 22-33, 35-40, and 42-47* is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-7, 9-20, 22-33, 35-40, and 42-47* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6, 9-19, 22-26, 40, 45, and 46 are rejected under 35 U.S.C. 102(b) as being anticipated by Ueno et al of record (5,418,570) for the same reasons as set forth in paragraph (5) of the last Office Action (see Paper no. 15).

3. Claims 42 and 43 are rejected under 35 U.S.C. 102(b) as being anticipated by Yonemitsu et al of record (5,475,435) for the same reasons as set forth in paragraph (6) of the last Office Action (see Paper no. 15).

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 7 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueno et al as applied to claims 1-6, 9-19, 22-26, 40, 45, and 46 in the above paragraph (2), and further in view of Guetz et al of record (6,091,777) for the same reasons as set forth in paragraph (8) of the last Office Action (see Paper no. 15).

6. Claims 27-32, 35-39, and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueno et al as applied to claims 1-6, 9-19, 22-26, 40, 45, and 46 in the above paragraph (2), and further in view of Lempel of record (6,163,576) for the same reason as set forth in paragraph (9) of the last Office Action (see Paper no. 15).

7. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Ueno et al and Lempel as applied to claims 1-6, 9-19, 22-32, 35-40, and 45-47 in the above paragraphs (2) and (6), and further in view of Guetz et al of record (6,091,777) for the same reasons as set forth in paragraph (10) of the last Office Action (see Paper no. 15).

8. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yonemitsu et al as applied to claims 42 and 43 in the above paragraph (3), and further in view of Song et al of record (6,115,070) for the same reasons as set forth in paragraph (11) of the last Office Action (see Paper no. 15).

9. Regarding the applicant's arguments at pages 3-4 of the amendment filed July 1, 2002 concerning in general that "... the Applicant has carefully reviewed the above portions and does not see where it supports the above interpretation of Ueno et al. In fact, these portions of Ueno et al do not even mention the upsampling circuit 35, local decoder 33 and coding section 30 of Figure 7, as mentioned above. Moreover, in column 19, lines 41-54, Ueno et al discloses a signal obtained by horizontal upsampling is separated into an odd-field signal and even field signal in a first filed separator 402. Ueno et al further discloses that the odd field signal and even field signal are subjected to vertical interpolation. Based on the above disclosure, it is evident that the up-

sampling of Ueno et al does not perform "Determining values of additional pixels based on values of pixels in the first block and on values of pixels in the one or more blocks, as required by the claims ...", the Examiner respectfully disagrees. It is submitted that Ueno et al, at column 8, line 41 to column 9, line 34, column 12, line 35 to column 13, line 60, column 15, lines 33-41, column 16, lines 8-20, teaches the particular features of the upsampling circuit 35, local decoder 33, and coding section 30. Ueno et al teaches that the coding section 30 and local decoder 33 are based on the existing H.261 or MPEG1 systems, and as such one skilled in the art would certainly have recognized that the coding section 30 and local decoder 33 of Ueno et al are similar to those corresponding elements as shown in the coding and local decoding sections of the high resolution picture signal as shown in Figure 7. Therefore, the low resolution local decode signal 34 output from local decoder 33 as shown in Figure 7 of Ueno et al is actually based on first blocks of pixels in the reference frame and one or more blocks of pixels that substantially correspond to the first blocks of pixels as provided by the search range calculation within coding section 30 of Figure 7 of Ueno et al (see column 8, line 41 to column 9, line 34, column 12, line 35 to column 13, line 60, column 15, lines 33-41, column 16, lines 8-20). The low resolution local decoded signal is further upsampled by upsampling circuit 35 of Figure 7 of Ueno (see also Figure 15), thereby adding pixels to the low resolution local decoded signal (see columns 19-20 and Figure 18). And as stated by the applicant with reference to column 19, lines 41-54 of Ueno et al, a vertical interpolation of odd and even field components are being provided in the upsampling process. The vertical interpolation process of Ueno et al thereby provides the addition of pixels to the low

resolution local decoded signal, and as such it is submitted again that the upsampling circuit 35 of Figure 7 of Ueno shows the same "determining values of additional pixels based on values of pixels in the first block and on values of pixels in the one or more blocks" as claimed.

Regarding the applicant's arguments at pages 5-7 of the amendment filed July 1, 2002 concerning the traversal of the rejection on claims 42 and 43, and in general that "... However, in column 7, lines 11-13, Yonemitsu et al discloses that the lower layer is input to the up sampling circuit 57, in which it is processed by interpolation so that its converted into a non-interlace picture ... It is evident that the up sampling circuit 57 of Yonemitsu et al does not "increase a resolution of a reference frame of the video based on pixels in the reference frame and based on pixels in at least one other target frame of the video", as required by the claims ...", the Examiner respectfully disagrees. The Examiner wants to point out that since the upsampling circuit 57 performs an interpolation of picture data, such interpolation will provide an increase in resolution of the picture. The Examiner wants to point out again that since the motion compensation decoding 55 of Figure 2 of Yonemitsu et al decodes the motion vector provided by the motion estimation process of the encoder (see column 2, lines 44-54, column 3, lines 25-35, column 4, lines 53-63, column 6, line 34 to column 7, line 63), one or more blocks of pixels from the target frames are being located that substantially corresponds to the first block of pixels. And since the lower layer picture S66 as provided to the upsampling circuit 57 of Yonemitsu et al is based on the motion compensated data from motion compensation decoder 55 (see column 6, line 34 to column 7, line 15), it is therefore submitted that the interpolation process provided with in the

upsampling circuit 57 provides the same increase of resolution of a reference frame of the video based on pixels in the reference frame and based on pixels in at least one other target frame of video (i.e., as provided by the motion estimation and compensation decoding process) as claimed.

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. **Any response to this final action should be mailed to:**

Box AF

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314, (for formal communications; please mark "EXPEDITED PROCEDURE") (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Lee whose telephone number is (703) 308-6612. The Examiner can normally be reached on Monday to Friday from 8:00 a.m. to 5:30 p.m, with alternate Fridays off.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group customer service whose telephone number is (703) 306-0377.

RICHARD LEE
PRIMARY EXAMINER

Richard Lee/rl

9/17/02